

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A doped ring amplifying optical fiber ~~(1)~~ comprising:
  - a single-mode core ~~(10)~~ of given diameter ~~d<sub>1</sub>~~; and
  - a multimode core ~~(20)~~ surrounding the single-mode core and containing a doped layer ~~(21)~~ referred to as a "doped ring", having a certain concentration ~~(c<sub>1</sub>)~~ of active rare earth ions ~~(6)~~, the fiber being suitable, because of the active rare earth ions, for amplifying an optical signal ~~(s<sub>u</sub>)~~ for injection into the amplifying fiber;

the fiber being characterized in that it is of a length and has Raman efficiency such that the product of said length multiplied by said Raman efficiency is greater than or equal to  $0.5 \text{ W}^{-1}$ , and in that, for said fiber presenting absorption for an injected optical signal ~~(s<sub>u</sub>)~~ due to the presence of active rare earth ions, said absorption being defined by an absorption coefficient expressed in dB/m and presenting a maximum value as a function of the wavelength of said signal, which value is referred to as the absorption maximum, said fiber presents accumulated absorption of the doped layer, corresponding to the product of said length multiplied by said absorption maximum, which is greater than or equal to 100 dB.

2. (currently amended): An amplifying optical fiber ~~(1)~~—according to claim 1, characterized in that said length is short enough for said amplification by said active rare earth ions to enable gain of not less than 1 dB.

3. (currently amended): An amplifying optical fiber ~~(1)~~—according to claim 1, characterized in that the absorption maximum is less than or equal to 1 dB/m and the length is greater than or equal to 100 m.

4. (currently amended): An amplifying optical fiber ~~(1)~~—according to claim 1, characterized in that the Raman efficiency is greater than or equal to  $3 \text{ W}^{-1}\text{km}^{-1}$ .

5. (currently amended): An amplifying optical fiber ~~(1)~~—according to claim 1, characterized in that said doped ring presents an inner radius ( $r_i$ ) greater than  $1.5 \text{ }\mu\text{m}$ .

6. (currently amended): An amplifying optical fiber ~~(1)~~—according to claim 1, characterized in that the concentration ~~(e1)~~ of active rare earth ions is selected to be lower than or equal to 1000 ppm, and when the rare earth ions ~~(6)~~ are erbium ions, to be lower than or equal to 300 ppm.

7. (currently amended): An amplifying optical fiber ~~(1)~~—according to claim 1, characterized in that the single-mode core ~~(10)~~ having at least a first refractive index ~~(n1)~~ and the

multimode core ~~(20)~~ having at least a second refractive index ~~(n2)~~, the difference between the first and second refractive indices ~~(n1, n2)~~ is greater than or equal to 0.01.

8. (currently amended): An amplifying optical fiber ~~(1)~~ according to claim 1, characterized in that the diameter ~~(d1)~~ of the single-mode core ~~(10)~~ is selected to lie in the range 3  $\mu\text{m}$  to 5  $\mu\text{m}$ .

9. (currently amended): An amplifying optical fiber ~~(1)~~ according to claim 1, characterized in that the single-mode core ~~(10)~~ is based on silica or on fluoride glass and is doped by dopants ~~(5)~~ selected from phosphorous, germanium, tellurium, aluminum, and boron.

10. (currently amended): An amplifying optical fiber ~~(1)~~ according to claim 1, characterized in that the ~~rare-earth~~ doped layer ring is based on silica or fluoride glass and is doped by additional dopants selected from the following compounds:  $\text{Li}_2\text{O}$ ,  $\text{Na}_2\text{O}$ ,  $\text{K}_2\text{O}$ ,  $\text{Rb}_2\text{O}$ ,  $\text{Cs}_2\text{O}$ ,  $\text{BeO}$ ,  $\text{MgO}$ ,  $\text{CaO}$ ,  $\text{SrO}$ , and  $\text{BaO}$ .

11.-13. (canceled).